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AUTHOR Kinzie, Mable B.; And Others
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ABSTRACT

This paper describes the design and use of a Web-based instructional design (ID) case in a team case competition involving six universities. It provides background information on case methods and techniques used to help students learn about instructional design practice. Teams participating in the 1996 competition were from: Arizona State University, Pennsylvania State University, and the Universities of Colorado-Denver, Minnesota, Southern Alabama, and Virginia. A total of 36 students participated. The case competition is described and the event methods detailed. Cases are an important instructional tool for developing professional knowledge across disciplines. When instructional design (ID) training includes applied design projects and reflection on relevant theories and techniques, the use of cases can ensure a more comprehensive preparation, as a greater number of design issues are explored and are contained in a broader array of environments than would otherwise be encountered. Use of the World Wide Web as the delivery medium of ID cases enables use of the materials by students at any institution or by interested individuals. Evaluative data is presented, based on a follow-up survey of participants and event officials. Observations about the potential value of case methods and case events, and recommendations for future development are provided. Team collaboration and competition are noted as motivating factors for students. (Contains 14 references.) (Author/SWC)

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ED 409 841

# Exploring Professional PracticeThrough an Instructional Design Team Case Competition

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Mable B. Kinzie
M. Elizabeth Hrabe
Valerie A. Larsen
University of Virginia

**Abstract**

*Cases have been recommended as an important instructional tool for developing professional knowledge across disciplines. In this paper, we report on the design and use of a Web-based instructional design case in a team case competition involving six universities. Students and most officials were enthusiastic about the use of ID cases and about this event. Team collaboration and competition were noted as motivating factors for students. The findings were used to inform on-going research and development, which is also described.*

"Needs analysis! Why should we want a needs analysis? We already know what we want to do!" Five heads nodded in agreement as I looked around the table. I tried to read the expressions on the faces of the members of the Workplace Readiness Project Committee: irritation?, speculation? boredom? hostility? This was my first meeting with the committee and my hopes for it going well were rapidly collapsing."

So begins a case on instructional design, "The Trials of Terry Kirkland" (Hrabe, Larsen, & Kinzie, 1996). In the case, a novice instructional designer comes up against thorny professional practice issues for which she was not prepared. For students analyzing cases such as this one, the cases provide an opportunity to explore professional issues while the students are still learning about design. Even when ID training includes applied design projects and reflection on relevant theories and techniques, the use of cases can ensure a more comprehensive preparation: a greater number of design issues are explored, in a broader array of environments, than would otherwise be encountered.

Building on the growing popularity of cases within education, and following recommendations by Graf (1991) and Ertmer and Russell (1995), we have been using case methods within instructional design classes (Lindeman, et al., 1995; Kinzie, Larsen, & Kent, 1996). Our most recent efforts involve development of ID cases and the use of the World-Wide Web (or Web, for short) as a delivery medium, enabling use of the materials by students at any institution or by any interested individual. Further, we are exploring the combination of team collaboration and team competition during the case analysis process. This paper will report on a team case event held during the spring of 1996 with six universities across the United States.

We begin by providing background information on case methods and techniques used to help students learn about instructional design practice. Then we describe the 1996 ID Team Case Competition, which was implemented with teams from six instructional technology programs across the United States. The competition case is described and the event methods detailed. Evaluative data are also presented, based on a follow-up survey of participants and event officials. We close with observations about the potential value of case methods and case events, and provide recommendations for future development.

## Case Methods

Cases are used extensively for professional preparation in law, medicine, and business, but have only recently begun to be widely employed in education (Merseth, 1991). Cases can involve a description of real events, as is common in business cases that describe the processes at work in an actual corporation. They can also resemble story-based fiction that is written around a central theme or set of key issues but which is grounded in problems and challenges from the real world (Ertmer & Russell, 1995). Instructional cases are used to encourage the development of professional thinking, as individuals formulate reactions to case materials.

Case methodology is especially effective if students are required to identify facts and issues, to de-center and view events from different perspectives, to apply current professional knowledge and research, and to predict consequences of various courses of action (McNergney, Herbert, and Ford, 1993). In this way, the use of case methods can help students to forge important connections between the academic and the experiential, between knowledge and practice (Cooper and McNergney, 1995). The effectiveness of case-based teaching is supported by

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Kleinfeld (1989, 1991), who has demonstrated that teaching with cases helps students to understand the meaning of events, increase their ability to frame educational problems, and improve their thinking regarding alternative courses of action.

**Learning about Instructional Design through Case Methods**

Instructional Technology (IT) majors typically learn instructional theories and design models and use them to guide their instructional design and development. Frequently students employ these techniques in an artificial environment, however, without an authentic instructional need to drive their efforts. There is no client to work with and no real-world problem to explore. On the other hand, securing the involvement of actual clients is difficult when the design consultants are students. Case methods are particularly useful in this situation, as they provide an environment in which students can explore a real problem, attempt to understand it, and then consider and generate a response. We do not consider case methods to be a substitute for applied project experience, however it is a valuable supplement that can add breadth and depth to students' knowledge.

We advocate consideration of cases by teams of students, due to the benefits realized through collaboration and because professional practice within instructional design most often requires individuals to function effectively and creatively in a problem-solving team. This strategy has proven effective within previous team case events, where a case scenario provided a rare opportunity for professional collaboration on solving real-life problems (Kent, Herbert, & McNergney, 1995). Ellsworth (1994) explains that collaborating students take on a more active role in the learning process. They become problem-solvers, contributors and discussants. The process of team collaboration can enhance the case experience, providing multiple points of view and offering individuals the opportunity to advance, and develop support for, their own perspectives.

We have combined team collaboration with inter-team competition. This approach is similar to the pairing of cooperative and competitive strategies advanced by Johnson and Johnson (1994), who suggest that this combination can be effective when the focus is on well-learned skills that need to be practiced (such as, in this case, applying ID skills to a novel case situation). Our collaboration/competition model is adapted from that advanced by Kent, Herbert, and McNergney (1995). Kent and his colleagues have asserted that competition can help ensure rigor in education, particularly if judges render opinions on team performance that is linked to pre-established criteria:

"Setting performance standards and using such measures to gauge students' behaviors encourages programmatic rigor in education just as these activities do in other professional fields" (p. 139).

The competition aspects of the case experience allow this activity to reflect the real world, where a design team must sometimes compete with others to identify the best possible solution. We also feel that students bring an energy and focus to their team collaboration that might not be present without the element of competition, as students know that their team's performance will be evaluated alongside that of other teams. It is our opinion that competition can be a useful adjunct to collaboration, provided that the primary focus is on learning, not on winning.

**Case Media**

The first case format proposed to the education community was the print medium, which continues to be the most popular form (Shulman, 1987). Internet technologies, however, have provided new vehicles for delivering cases to learners.

We have devoted some previous efforts (Lindeman, et al., 1994; Kinzie, Larsen, & Kent, 1996) to exploring the use of the Internet to provide both case materials and on-line environments for case discussions. We began (Lindeman, et al., 1994) with the use of MOOs, an acronym for "MUD, Object-Oriented." A MUD is a Multi-User Dimension, an on-line environment peopled by users who synchronously interact with one another. In a MOO environment, "text objects" are created and left for users to find, read, and discuss. Our first goals involved creating an explorable professional practice environment, such as a suite of offices containing documents in filing cabinets, organization charts on the walls, and transcripts of meetings that could be "played back" (the text appears and scrolls up the screen during playback). While it was an interesting idea and one we may return to later, we found that, without experience and comfort in the MOO environment, case materials were too difficult for students to access and discuss.

In our next effort (Kinzie, Larsen, & Kent, 1996), we moved case materials to the World-Wide Web and kept the case discussion on-line in the MOO. We found the Web well-suited to case delivery, and providing graphic, sound, and video media, in addition to text. Being able to open Web documents alongside the MOO discussion window helped students manage and discuss the materials. The MOO environment continued to present challenges, however, since it allows multiple threads of conversation to occur simultaneously in real time, a feature some

students found frustrating and others found fascinating. We are interested in returning to this combination in the future, for we feel there is important potential for allowing geographically disparate students an opportunity to meet and discuss cases on-line.

In the research reported here, we combined Web delivery of an instructional case with on-site team case meetings for discussion and response development. We also introduced the element of team competition along with team collaboration. And, perhaps most importantly, we invited others from the academic and professional community to participate. The primary question we asked was, "Are cases a worthwhile medium for exploring and learning about instructional design?" We were also interested in whether participants found team collaboration and competition to be valuable, whether the Web was an effective delivery medium, and whether our approach to case development resulted in realistic cases sufficiently deep for encouraging exploration.

## Methods

### Participants

Teams participating in the 1996 competition were from the following institutions: Arizona State University, Pennsylvania State University, and the universities of Colorado-Denver, Minnesota, Southern Alabama, and Virginia. A total of 36 students participated, (20 female and 16 male). The students were from both master's and doctoral programs, and all had had some formal training in instructional design as part of their respective programs. Two of the teams participated as part of a course; for the other four teams participation was an extra-curricular activity. On the average, student participants reported having a significant amount of full-time work experience (between 5 and 10 years). They possessed a broad range of experience from a variety of professions, including teaching, career military, and corporate.

Officials included team sponsors and the provocateurs and judges nominated by each sponsor (each sponsor nominated one or more professionals for participation). Sponsors also nominated the student teams and relayed all event communications to team members. Provocateurs read team responses and composed a specific question for each team and a common question for all teams. Judges reviewed teams' case and question responses and completed a rating scale and written comments for each team.

### Materials

"The Trials of Terry Kirkland" was developed for the 1996 team case competition (Hrabe, Larsen, & Kinzie, 1996). While fictional, this case is based on real issues and problems selected in advance by the case authors and imbued with actual experiences. The bulk of the case is delivered in an illustrated narrative, ostensibly written by an instructional designer. The relatively inexperienced designer has been brought into a high school to work with a group of teachers to develop a "workplace readiness" workshop. Events in the case are presented in a number of scenes that take place over the course of about five months.

*Figures 1-3: Screen Captures from the Web-based case, "The Trials of Terry Kirkland"*

The narrative is supplemented with a collection of twelve case ancillaries: text documents, charts, photographs, and audio and video clips. These ancillaries help to depict and add depth to the case events. Because we were concerned about whether participants would be able to access the audio and video clips, however, transcripts



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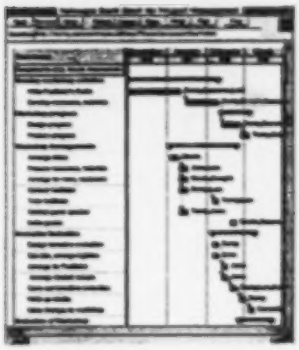
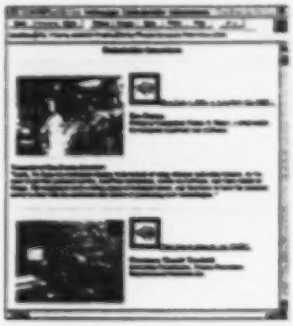
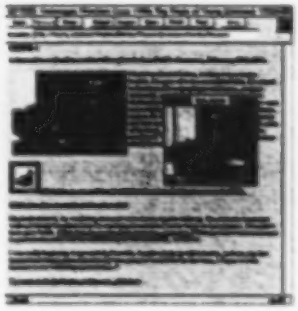
were provided for these materials in these media. The case may be examined at the following URL: http://teach.virginia.edu/go/ITcases

*Figures 4-6: Ancillary case documents, audio, and video*

**Procedures:**

Teams were given two weeks to review the case, discuss it, and develop their response. A limit of six hours was placed on team meeting time, though no limit was placed on individual reading, thought, or writing. Teams were allowed to refer to any resource materials they desired, but were instructed to respond to the case without the participation of their faculty sponsors.

In developing their responses, teams were instructed to address each of the following tasks:

- Identify the key issues present in the case,
- Consider the issues from different perspectives, including those of the key players in the case,
- Identify what professional knowledge team members have that would be pertinent (and what more they need to know),
- Develop a plan of action, picking up at the conclusion of the case, and
- Hypothesize as to the possible outcomes of that plan.

Discussion of each of the above was limited to 250 words. The entire case response was required to be 1,250 words or less.

Following submission of their case responses, teams were sent two questions from event provocateurs (a team of three experts served as provocateurs). One question was a general case-related question, and the second was developed in reaction to each team's analysis. Teams were allowed up to two hours (within a one-week period) to discuss and develop their response to both of the provocateur questions. Teams' question responses, along with their initial case response, were then sent to the five-member panel of judges. Individually, each judge reviewed the materials from each team, completed a rating scale for that team, and wrote evaluative feedback for the team. On tabulation of the judges' ratings, two winners were announced and their responses posted to the Web site.

**Measures**

Judges completed a rating scale to indicate the success with which each team addressed the five categories of case response and the issues raised in the provocateur questions. Table 1 contains a listing of these questions. Response was made using a four-point scale, with response options ranging from 1 (Strongly Disagree) to 4 (Strongly Agree).

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*Table 1: Judge Rating Scale for Team Case Responses*

1. The overall performance of the team was excellent.
2. The team identified all of the important issues in the case.
3. The team demonstrated an excellent ability to define relevant perspectives (e.g., instructional designer, teachers, students, administrators, community members, etc.)
4. The team demonstrated appropriate application of professional knowledge.
5. The team's projected actions were reasonable and appropriate.
6. The team effectively anticipated the consequences of actions.
7. The team's response to the COMMON question addressed the relevant issues and demonstrated insight into professional practice.
8. The team's response to the SPECIFIC question addressed the relevant issues and demonstrated insight into professional practice.

When participants (Students, Sponsors, Provocateurs, and Judges) had completed their participation in the case event, we asked them to evaluate the experience by responding to a survey. Students responded to a survey made available for them on the Web; their responses were sent to us electronically through the use of Web forms. E-mail surveys were sent to Team Sponsors, Provocateurs, and Judges. While some of the survey questions varied according to type of participation, all participants were asked a common set of questions, which are displayed in Table 2.

*Table 2: Survey Questions Answered By All Participants*

| Survey Question | Response Type |
|---|---|
| Prior to this event, had you ever used cases as a learning tool?<br>If so, what was the content (ID, teacher education, law, medicine) and how did you use the case(s? | yes/no<br>fill in |
| How did you prepare for the case competition?<br>Did you review the Web site?<br>Did you read the practice case?<br>Did you read any articles or other literature related to case methods?<br>Others? Please describe. | <br>yes/no<br>yes/no<br>yes/no<br>fill in |
| How did you access the case materials?<br>(Completely on-line, Only with print-outs, and Both on-line & printouts) | mult. choice |
| Did you download and watch/listen to the video and audio clips?<br>(All, Most, Some, None) | mult choice |
| Did you have any difficulties accessing the case materials?<br>If so, please describe. | yes/no<br>fill in |
| Which of the ancillaries below did you feel were necessary to your understanding of the case?<br>(12 ancillaries listed) | checkboxes |
| The use of the case study method is valuable in developing expertise related to instructional design.<br>Strongly Agree, Agree, Disagree, Strongly Disagree | Likert scale |
| Participation in this case competition will help prepare students (helped prepare me) for future instructional design projects.<br>Strongly Agree, Agree, Disagree, Strongly Disagree | Likert scale |
| Taking this experience as a whole, what worked? (or What was most valuable?) | fill in |
| What didn't work? (or What was least valuable?) | fill in |
| Do you have any suggestions for future modifications of this event? | fill in |

In addition, students were asked to indicate the number of years they had held a full-time job (1-2 years, 2-5 years, 5-10 years, or more than 10 years). Students and Team Sponsors were also asked whether their team participated in the event for a class or for some other form of academic credit, and whether there were other factors that prompted their participation. Responses to this survey were analyzed using simple descriptive statistics (means and standard deviations) and simple qualitative analysis for the open-ended questions.

We also conducted 30-45 minute telephone interviews with participant volunteers after completion of the surveys. These interviews were tape recorded with permission and were later transcribed for analysis. Interviewees were all asked a series of standard questions but were encouraged to elaborate on their ideas and add any comments at will. Table 3 displays the interview questions we asked students and officials alike. Table 4 includes interview questions addressed to students only, while Table 5 contains questions directed to provocateurs and judges. In addition, we asked team sponsors whether this was a useful activity for their students to be involved in, and asked judges how they went about evaluating case responses. We use this data to more fully describe the effects of the case event.

*Table 3: Interview Questions Answered By All Participants*

| |
|---|
| • What other activities have you engaged in to learn/help others learn the practice of instructional design? |
| • Was the case realistic? If so, what contributed to the realism? The story? The media components? The supporting files? |
| • Did the media (graphics, video, audio) contribute something to the experience (over text alone)? What was that contribution? |

*Table 4: Interview Questions Answered by Students*

| |
|---|
| • How did you organize your team's approach to the case analysis?<br>• How did you assign responsibilities among team members?<br>• How did you coordinate case analysis and response generation?<br>• How many meetings did you have, and how long were they? |
| • What kinds of discussions did your team have?<br>• How did you deal with conflicting viewpoints within the team? |
| • How did you feel about your case response? |
| • Did knowing that it was going to be judged influence your approach to this activity? |
| • How did you feel about the questions you received from the provocateurs? |
| • How did you feel about the feedback you got from the judges? |

*Table 5: Interview Questions Answered by Provocateurs and Judges*

| |
|---|
| • How did you feel about the quality of the case responses? |
| • What kind of sense were you able to get of each team's instructional design expertise, based upon their case and question responses? |
| • How were the teams' responses different from one another? |

## Results

### Response Rates

We received survey responses from 21 out of the 36 students initially participating, with at least 4 students dropping out, suggesting a response rate of at least 65%. (Two of the teams volunteered information on drop-out to us. We did not ask other teams if any members had been unable to participate, so are unable to be more specific.) At least one student from each team responded. Surveys were received from 9 of the 12 event officials, yielding a response rate of 75%.

Following completion of the surveys, 12 students (38%) agreed to be interviewed, from five of the six teams, while 8 of the 12 event officials (67%) participated in interviews.

### Reasons for Participation

The reasons participants gave for participating were varied: Seven students commented on their desire to learn more about instructional design through the case event and three noted that the competition aspects were very motivating--they were proud to represent their schools and reported giving team efforts high quality attention. One student wrote, "It seemed like a worthwhile adventure and it certainly exceeded my expectations."

### Preparation for the Event

All of the students and officials responding indicated that they had reviewed the Web site and the practice case that had been made available prior to the release of the event case. Further, the practice case had been discussed by 62% of the students. Readings relating to case methods had been completed by 67% of the students and 33% of the officials. Cases had been used previously by 43% of the students and 78% of the event officials; however only one of the students and four of the officials reported experience with cases on instructional design.

### Use of Case Materials

The competition case was reviewed both on-line and with print-outs by 95% of the students and 88% of the officials (however many students indicated in the follow-up interviews that the bulk of their case work was done with print-outs). Overall, students made use of "some" of the audio and video clips ($M$ = 2.15, $SD$ = 1.09, range = 1 [none] to 4 [all]): Three of the students made use of all of the supporting audio and video clips, four accessed "most", six used "some", and eight used "none". The media access rate was somewhat lower for officials ($M$ = 1.50, $SD$ = 0.53), with four out of the nine using "some" of the media and the another five using "none." Four students

and two officials reported difficulty accessing the media, as a result of computer set-up problems (not enough memory, no audio capability, or software improperly installed).

We asked students and officials for their perceptions of the twelve case ancillaries--supporting documents or media designed to flesh out and provide detail to the case. We wanted to know if the ancillaries were necessary to their understanding of the case. Responses were on a 4-point scale (1= not at all necessary, 2 = somewhat necessary, 3 = helpful, 4 = very necessary) and are reported here with student and official ratings combined.

The most useful ancillaries tended to be text-based and those most directly linked to instructional design practices (Meeting Notes with Workshop Content, Goals, Objectives, and Evaluation Plan, $\underline{M}$ = 3.59, $\underline{SD}$ = 0.63; Results of Formative Evaluation, $\underline{M}$ = 3. 50, $\underline{SD}$ = 0.66). An exception here was the "Project Management Chart," which ranged just above "somewhat necessary" ($\underline{M}$ = 2.27, $\underline{SD}$ = 0.92). Ancillaries considered to be less useful included two of the media files: "Lucky Larry TV Spot" (video clip; $\underline{M}$ = 1.92, $\underline{SD}$ = 0.89) and "Mr. Tuthill's Address" (audio clip; $\underline{M}$ = 2.16, $\underline{SD}$ = 0.85).

**Quality of the Case**

Fourteen of the students and six of the officials took time to comment on their positive feelings about the case. Six respondents commented on the realism of the case, with remarks such as "The variety of information seemed very reflective of the kind of data one would get in real life," and "I could 'see' this actually happening!"

The depth and complexity of case events was generally thought to be effective for provoking student analysis and synthesis (eleven respondents addressed this positive quality). One student commented, "Working on a case provided a way to review [my] entire course of studies." Most officials likewise found the case and the analysis process worthwhile. An official commented that she was certain to have learned as much as the students, while another wrote:

> "The case study was successful in evoking a rich environment that included a number of possible courses of action. It provided a pretext for trying out theories and strategies, but just as importantly, noting where our theories came up short or fell completely silent."

One official, however, noted that the case evidenced a "predominance of secondary information, i.e., description of people instead of encounters with them," while another reflected on the limitations of cases: "Trying to be so realistic, you end up being somewhat fake."

A single respondent felt that the case provided "too much" ancillary material, while four others felt that the audio and video media were not necessary, as expressed in this comment: "Transcripts provided the information we needed." For one of the teams, Web access was primarily text-based, making audio and video access problematic.

**Consideration of the Case**

Our interviews suggest that teams actually employed a variety of approaches to organization and response creation. At the outset of the competition almost all of the teams, communicating via e-mail, negotiated schedules to set up meetings and issued requests that team members come to the first face to face meeting having read the case. One team went further:

> "....each of us on our own had addressed the questions and e-mailed them to each other. So there was an exchange of ideas before we sat down to discuss them."

Most teams actually met between two and three times as a whole group. The initial meetings were used for several purposes: organizational minutiae (e.g. numbering pages of the printed out case to facilitate later discussion), divvying up tasks, and brainstorming ideas about the case. One team expressly used the initial meeting to take each other's measure.

> "We focused initially on the practice case study and addressed those questions and that was helpful to us to establish the group dynamics. Everybody kind of showed themselves during that time, so we knew what to expect"

Two teams broke the case analysis task into "chunks" by "questions" (issues, perspectives, knowledge, actions, and consequences), meeting initially to divvy up the parts to team members according to their perceived strengths. "We discussed our strengths and decided, 'You know, I know more about this and I'd like to do this...'" Team members then went off and, working individually or in pairs, developed an answer to a particular part. These teams later came together to discuss these individual contributions or "negotiated responses via e-mail."

In a third team, members composed individual answers to all of the questions, then came to meetings for discussion. One writer/editor composed the entire response based on these conversations.

A fourth team used a very different strategy. These team members composed their entire response together, working at one computer:

> "We had three hours to really discuss the case. We took notes the whole time in sort of bulleted form. Then we came back in the second three hours and composed--distilled out of our notes what we wanted to say and how we wanted to say it. In my opinion we were very efficient in the process."

**Collaboration**

Collaboration was an important factor in teams' perceptions of their own effectiveness. Fifteen individuals remarked on this, making comments such as, "What worked was having to enter into collegial dialog, negotiating, arriving at consensus," "Working together with others who have different perspectives and information bases helped expand mine," and "We had some *great* discussion; you would have loved it!"

The presence of conflict appeared to vary greatly among teams. In our interviews, two students indicated an absence of conflict on their teams, with one lamenting this fact: "I'd say that one problem was maybe that we were too similar--that may have restricted us." Other participants related that team conflicts, both potential and actual, seemed to evolve from differences in background and experience, educational training ("we weren't in a common frame of reference of what we were studying"), and writing styles, in addition to miscommunications.

Methods for dealing with differences in opinion ranged from ignoring outliers to incorporating ideas into the whole response in a compromise: "On issues where we could not come to closure, generally we included the input of both people." Most notable, however, was the enthusiasm expressed by some of the participants for the rough and tumble nature of discussions in which differences were ironed out:

> "You know, everybody needs to go through that. That's so essential. What was neat about it was that we were quite a blend of personalities. You know, we all learned something from one another in this whole process and that's what it should be about."

> "Because of the conflicting viewpoint, to bring the group to consensus we all had to have a good understanding of what was going on and that required getting deeply into the case. Two or three of the people said that they really liked this approach to working on it and getting the benefit of other people's ideas."

> "And what ensued was good. I didn't have all the right answers. A lot of things I would have designed might have come undone had it not been for teammates. There are many things that they put in that I hadn't thought of. I don't care who wins this thing. I don't. But, I tell you straight out, I feel like I'm a winner already simply because I learned so much from it."

**Competition**

We wanted to hear from our respondents on another important aspect of the case competition--the competition itself. They had been involved in a case event in which a winning response would be identified. How did that influence the team members, both in the quality of their participation and in the crafting of their response?

Students expressed positive attitudes towards competition, with many comments about its motivating effect:

> "I think that (the competition) was crucial to keeping everybody engaged. If there had been no competition, it would not have been a vicarious experience of relatively deep engagement with Dundee High School."

"I think we had a team spirit, or a university spirit. We knew that there were other schools and that possibly they were coming from different theoretical perspectives or different influences of different professors and they may take a different approach. It aroused our curiosity."

"Whether I like it or not, I think competition serves a purpose. We want to try to make things as cooperative as possible, but competition produces a different edge and that can be good when it's properly channeled. I think it's good for students to learn that the world involves competition."

When we asked how the respondents felt about being judged with one team's response being declared a "winner," we received some interesting observations,

"The judging may have influenced us in the beginning. But... we got lost in it. I think the competition just sort of took a back seat."

"We are more interested as a group in seeing what other people have said. We don't really care how the judges say we did."

"The fact that it was judged added immeasurably to its attractiveness as a competition case for me. In fact I'm not sure that I would have participated had it not been judged. I don't think I would have."

Including one negative comment:

"A competition means that somebody, the winner, does the thing the best. So let's say the objective is to learn. Let's say you learn, but you lose. I know that when I lose, I feel like I didn't learn."

An event official encouraged consideration of the benefits competition and collaboration each provide, and asked, "How can the rules be adjusted to allow the best of both worlds?"

**Case Responses & Event Outcomes**

The three provocateurs developed specific questions for individual teams and a common question to be answered by all teams. The specific questions included:

"There appeared to be tacit approval by all members of the committee and the community that a series of workshops was the most effective way of getting high school students to become empathetic, effective problem solvers. Do you agree? If so, justify large group workshops as the most effective approach. If not, describe instruction/learning experiences that may be more effective in accomplishing the objectives set forth by the Workplace Readiness Committee."

and

"Please compare your own action plan against that proposed by the Workplace Readiness Project Committee. Will it fit within the constraints of the project (i.e., a small grant for a series of workshops)? How does your plan better address the target population? Is it grounded in the context of practical activity?"

Meanwhile, all teams were posed the following common question:

"It appears that one of Terry's major failings, as with so many instructional designers, was in not conducting any sort of context analysis to describe the organizational, socio-cultural context in which this process was to be played out. How should she have done this? What do you believe that she would have found? How would that have affected the design of the instructional/ learning activities that were used to engage the students?"

The five judges reviewed the team's (blind) case responses and responses to provocateur questions over a two-week time period. At the end of this time, they returned written comments for each team and the completed response rating form.

Team ratings on the evaluation items (1 = low, 4 = high) were averaged across the eight items and five judges. These average team ratings ranged from a low of 2.79 (SD = 0.49) to a high of 3.3 (SD = 0.59), suggesting that all the teams did fairly well.

In general, the judges felt positively about the teams' overall performance (M = 3.10, SD = 0.40), and their ability to identify the important issues (M = 3.08, SD = 0.64), define the perspectives of key players (M = 2.96, SD = 0.77), apply professional knowledge (M = 3.08, SD = 0.63), specify future action (M = 3.02, SD = 0.70), and anticipate the consequences of the action (M = 2.82, SD = 0.51). They also felt that teams' responses to the provocateur questions (common question M = 2.80, SD = 0.58; specific question M = 2.96, SD = 0.41) demonstrated some insight into professional practice.

When we spoke with event officials, we pursued the relationship between teams' case responses and perceptions of the teams' design expertise. While definitive relationships were not found here (some officials felt the case responses were strong and others less so), some valuable insights were offered. Two officials reflected on the relationship between ID theories and training and the case responses they reviewed:

> "The responses were kind of light weight... They were trying too hard to show what they had learned, you know, glib stuff that you learn in a master's program in instructional design, without too much integration to the realities of the case."

> "The case brought out the inadequacy of some of our theories... Even if you try to apply all of that knowledge there's still so much more you need to know in order to succeed. Are these things being taught in our classes? Maybe or maybe not. It's a stark assessment of our theories as we look at these rich cases. We would have to conclude that we are only partially giving students the tools that they need."

However, one official noted the difficulty in making assumptions about design expertise when teams had merely responded to the case and not developed an instructional design:

> "I could get a sense whether they had concepts like needs assessment, evaluation, or context analysis but I couldn't really get a sense that they could design a program of instruction."

**Design & Management of the Case Event**

Several issues related to the design and management of the event emerged as important. A limit on time allowed for team meetings was seen as difficult by one student: "It takes a great deal more time than [six hours] to put a team together so that they function as a team." The limit on length of case response (1,250 words) was viewed as problematic by another: "Answers such as those we want from case-based learning cannot and should not be relegated to lists, cookbook-like two sentence answers, or sound bites." However, the time and length limits were seen as positives by five other student respondents: "At first, I didn't like the word limitation or the strict time limits, but I think it's in our best interest." "We had to be succinct and to the point." "Setting time limits was a stroke of genius."

Noting the two stages of team response (case response, response to provocateur questions), a student added that "two levels of group input is far better than a one-time effort." The use of provocateur questions, while seen as a valuable concept, was not satisfying to three of the students: "The questions were not very challenging and did not provide an opportunity for additional analysis." "They looked like they had been written before our response." The need for better development of the provocateur's role was noted by two of the provocateurs: "I would have preferred a greater degree of interaction with my peers." "Time constraints were tough, but I wish I had been more proactive in discussing our questions with the other provocateurs. We could have been more instructive in our questions to the teams."

Several students and officials reported a desire for more sharing of case responses and discussions between sites. The top two case responses were posted to the Web site after judging was completed, but at least one student and one official wanted to read all of the case responses. The official commented that even though he hadn't been on a team, that "I felt an urge to talk it over, wishing I could argue the key points of the case and my particular solutions. I wonder if student teams also felt a desire to debrief further."

The time within the semester for this case event was seen as a problem (students were involved in event activities during the month of April). Nine students commented on this, and eight of them suggested that the case

event occur earlier in the semester while one of them (on a quarter system) indicated that it should come later. Coordination of submissions and communications with the participants was viewed as effective, with respondents remarking on the enthusiasm of the event staff, and the quick turn-around for submissions.

**Value of Participation**

We asked students and officials two questions eliciting their opinions about the value of case methods and this case event (Likert response options were from 1 [strongly disagree] to 4 [strongly agree]). Students felt that the case study method is valuable for developing ID expertise ($\underline{M}$ = 3.81, $\underline{SD}$ = 0.40), a perception that was shared by the officials ($\underline{M}$ = 3.56, $\underline{SD}$ = 0.53). They also expressed enthusiasm for the value of this case event in preparing students for future ID projects (students $\underline{M}$ = 3.62, $\underline{SD}$ = 0.50; officials $\underline{M}$ = 3.67, $\underline{SD}$ = 0.50).

Most of the officials were positive, with several making enthusiastic claims:

> "...probably the single instructional strategy innovation that could make the biggest difference in education,"
>
> and
>
> "In my mind the case competition format is a watershed event in the history of teaching instructional design... The case competition format allows students to really dig into a scenario and apply what they have learned about the instructional design process."

While another official expressed more skepticism about cases in general, arguing that cases should not substitute for real design experiences:

> "Trying to represent reality, when reality is already there, many not be the best use of our energies."

**Discussion**

According to our follow-up survey (response received from at least 65% of students and 75% of officials), the ID case competition was a valuable experience for those involved. In expressing their reasons for participating in the case event, students and sponsors alike noted the potential for learning about instructional design.

Students demonstrated enthusiasm in their participation. Prior to the event, all participants reviewed the Web site and a practice case, and nearly two-thirds of the students discussed the practice case. While cases had been used previously by somewhat less than half of the students and three-fourths of the officials, few reported specific experience with ID cases. Collaboration was an important factor in teams' perceptions of their own effectiveness. Students commented on the value of collegial dialog, negotiation, and consensus decisions. Many students noted the motivating aspects of the competition in their responses, commenting on their pride at representing their schools and the edge, or focus, that the competition brought to the case analysis experience. Similarly, the prospect of being judged was viewed positively by most of the students.

Most of the participants felt that the "Trials of Terry Kirkland" case was realistic--detailed, complex, and providing a number of courses of action, while several noted the deficiencies of the case as compared to real design experience. The Web proved to be a useful medium for distributing the case materials, with most participants reporting that they reviewed the case both on-line and via printouts. The most useful ancillaries tended to be text-based and those most directly linked to instructional design practices. Because we provided transcripts for all of the audio and video clips, we were not surprised that usage of these media was so low. We considered these materials to be supporting in nature--materials included to round out and add realism to the case. Because we suspected that media access would be problematic (and for some participants this was the case), we provided transcripts for these materials, making the audio and video clips even less necessary.

Teams employed a number of different approaches to their case analysis and response development process. Most teams met two or three times, with the initial meeting being used to develop action plans and to do some preliminary brainstorming. Some teams divided up the case response, while in other teams all members answered all questions, either separately (coming together later to compare responses and develop the final response) or together (developing each portion of the case response within a meeting). There appeared to be little conflict, and when there was conflict it was resolved productively, with several participants noting that the conflict that did occur was a valuable part of the case analysis process.

While limits on team discussion time and response length were seen as restrictive by a few students, a number of others indicated their support for these guidelines, noting that they knew these limits were in their best interests and that the limits encouraged focused meeting time and succinct responses. The implementation of the provocateur role left something to be desired for some of the students and provocateurs--students noted lack of specificity and challenge in the provocateur questions, while provocateurs wished for more discussion opportunity with their provocateur peers.

Judges felt that teams performed well in their case responses; all but two of the judges' thirty team ratings (five judges x six teams) on the overall performance item indicated agreement or strong agreement that team performance was excellent. Ratings on each of the specific criteria (identification of issues, application of professional knowledge, etc.) indicated general agreement that team performance was appropriate/effective.

In their consideration of team case responses, several officials noted what they felt to be evidence of limitations in our ID models and student preparation, while the comments made by another suggested that it was difficult to make assumptions about design expertise since the teams had not been required to develop an instructional design in response to the case.

Nonetheless, all of the responding participants (students and officials alike) agreed or strongly agreed that case methods are valuable for developing ID expertise, and that participation in this case competition was valuable in preparing students for future instructional design projects.

**Limitations of these findings**

It is possible that participants not responding to our survey had different feelings about their participation and about the value of case methods for instructional design. Participants were contacted about the survey three times and about the interview twice, so we feel that all who wished to contribute their perceptions were given the opportunity.

We know that participants felt positively about the value of this case-based experience, but we cannot know whether participation will actually improve students' future instructional design efforts, teamwork, or consulting skills. Inquiries considering the relationship of case methods to these longer-term outcomes will be important.

**Future research and development directions**

"Do it again!" We will host a second ID case event during the spring of 1997. We plan to build upon the successes of this first attempt and to capitalize on the excellent suggestions made by first-year participants. We will expand on opportunities for collaboration both within and across sites, while still offering teams an opportunity for healthy competition. We will also charge teams with developing an instructional design or a needs assessment in response to each case. Three cases will be offered: a Practice Case, a Discussion Case, and a Competition Case.

The Practice Case (we will use "The Trials of Terry Kirkland" for this purpose) will be available for any type of use at any time. In addition to the case materials, winning case responses and judges' comments, we have included a teaching note which includes a variety of questions to encourage case exploration and discussion. We have also added the perspectives of three experts on the case, so that students can consider some different points of view after developing their own response to the case.

The Discussion Case will be provided in a similar Web format. Participating students will discuss the case with faculty and other students at their institution as they develop their case response in the form of an instructional design. Three provocateurs will each assume the perspective of one of the principals in the case, and will read team responses and pose questions for teams to respond to from these perspectives. The case and question responses from all teams will be posted to the web site. Finally, discussion of the case and responses will be encouraged across sites, through an electronic mailing list.

The Competition Case will also made available in Web format. Teams will be asked to develop an instructional design or a needs assessment in response to this case. We will be working to include the Provocateurs and Judges more integrally in the case activities and discussion, and the Judges will provide written evaluation of case responses. The timing of this event will be moved to an earlier point within the semester, to make student participation easier.

**Use of audio and video media.**

We plan to continue experimenting with provision of multimedia-based materials in cases; multimedia has the potential to provide *encounters* with people instead of *descriptions* of them (as suggested by an official). As we

do so, we will need to consider how to make these materials available to the widest possible audience. While transcripts provide the verbal contents of an interaction, they may not be able to provide a sense of underlying emotion or political charge that can be just as important.

We hope that through activities such as those described above, we will be able to define techniques for providing valuable learning experiences in instructional design.

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